

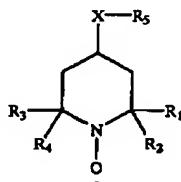
Amendments to the claims

This listing of claims will replace all prior versions, and listings, of claims to the application.

Listing of Claims:

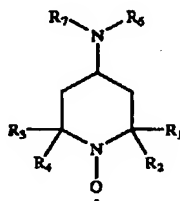
1. (currently amended) The method of carboxylating wood pulp in a wood pulp bleach plant by
after a pulp washer in a pulp bleaching system, adding a base chemical to the a pulp slurry after a bleach stage washer, and
adding catalytic oxidation chemicals to the pulp slurry and
between the bleach stage washer and the next bleach stage, reacting the chemicals with pulp in the pulp slurry between the bleach stage washer and the next bleach stage to form
oxidized pulp,
before the next bleach stage, adding stabilizing chemicals to the catalytically oxidized pulp before the next bleach stage, and
in the next bleach stage, stabilizing the catalytically oxidized pulp in the next bleach stage.
2. (original) The method of claim 1 in which said bleach stage is an extraction stage.
3. (original) The method of claim 1 in which said bleach stage is a chlorine dioxide stage.
4. (original) The method of claim 1 in which the base chemical is sodium hydroxide or sodium carbonate.
5. (original) The method of claim 1 in which the oxidizing chemicals are a sufficient amount of a primary oxidant selected from the group consisting of hindered heterocyclic oxammonium salts in which the carbon atoms adjacent the oxammonium nitrogen lack α -hydrogen substitution, the corresponding amines, hydroxylamines, and nitroxides of these oxammonium salts, and mixtures thereof, and a secondary oxidant selected from chlorine dioxide and latent sources of chlorine dioxide in a sufficient amount to induce an increase in carboxyl substitution in the carbohydrate of at least 2 meq/100 g.
6. (original) The method of claim 5 in which the nitroxides have a five or six membered ring structure with di-lower alkyl substitution on each carbon atom adjacent the nitroxide.

7. (currently amended) The method of claim 4 in which the nitroxides are compositions having the structure



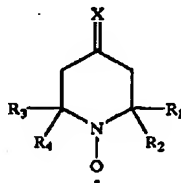
in which R₁-R₄ are one to four carbon alkyl groups but R₁ with R₂ and R₃ with R₄ may together be included in a five or six carbon alicyclic ring structure, X is sulfur or oxygen, and R₅ is hydrogen, C₁-C₁₂ alkyl, benzyl, 2-dioxanyl, a dialkyl ether, an alkyl polyether, or a hydroxyalkyl, and X with R₅ being absent may be hydrogen or a mirror image moiety to form a bipiperidinyl nitroxide.

8. (currently amended) The method of claim 5 in which the nitroxides are compositions having the structure



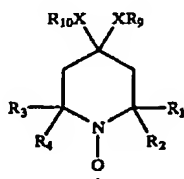
in which R₁-R₄ are one to four carbon alkyl groups but R₁ with R₂ and R₃ with R₄ may together be included in a five or six carbon alicyclic ring structure, and R₆ is hydrogen or C₁-C₅ alkyl, and R₇ is hydrogen, C₁-C₈ alkyl, phenyl, carbamoyl, alkyl carbamoyl, phenyl carbamoyl, or C₁-C₈ acyl.

9. (currently amended) The method of claim 5 in which the nitroxides are compositions having the structure



in which R_1 - R_4 are one to four carbon alkyl groups but R_1 with R_2 and R_3 with R_4 may together be included in a five or six carbon alicyclic ring structure, and X is oxygen, sulfur, NH, N-alkyl, NOH, or NOR_8 where R_8 is lower alkyl.

10. (currently amended) The method of claim 5 in which the nitroxides are compositions having the structure



wherein R_1 - R_4 are one to four carbon alkyl groups but R_1 with R_2 and R_3 with R_4 may together be included in a five or six carbon alicyclic ring structure, X is methylene, oxygen, sulfur, or alkylamino, and R_9 and R_{10} are one to five carbon alkyl groups and may together be included in a five or six member ring structure which, in turn, may have one to four lower alkyl or hydroxy alkyl substituents.

11. (original) The method of claim 10 in which the primary oxidant is EGK-TAA.

12. (original) The method of claim 1 in which the stabilizing compound is selected from the group consisting of alkali metal chlorites, chlorine dioxide, hydrogen peroxide, acid, peracids, and mixtures thereof.

13. (original) The method of claim 1 in which the stabilizing chemical is an acid.

14. (original) The method of claim 13 in which the stabilizing chemical further comprises a peroxide.

15. (original) The method of claim 14 in which the stabilizing chemical further comprises chlorine dioxide.

16. (currently amended) The method of claim 1 in which said ~~carboxylation~~ oxidation reaction has a reaction time of no more than 15 minutes.

17. (currently amended) The method of claim 1 in which said ~~carboxylation~~ oxidation reaction has a reaction time of no more than 2 minutes.

18. (currently amended) The method of claim 1 in which said ~~carboxylation~~ oxidation reaction has a reaction time of no more than 1 minute.

19. (currently amended) The method of claim 1 in which said ~~carboxylation~~
oxidation reaction has a reaction time of no more than 30 seconds.

20. (currently amended) The method of claim 1 in which said ~~carboxylation~~
oxidation reaction has a reaction time of no more than 15 seconds.